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Environmental Assessment
Reconstruction of NPS Route 1

RSP
2/4/94



Ash River Developed Area
VOYAGEURS
National Park • Minnesota

PU 94 002418
REQ 94 002003

Environmental Assessment Reconstruction of NPS Route 1

Ash River Developed Area **VOYAGEURS** National Park • Minnesota

This Environmental Assessment for the reconstruction of NPS Route 1 analyzes the proposed reconstruction and environmental impacts of upgrading approximately 3.125 miles of the route, constructing three new vehicle pullout/parking areas, expanding parking at the visitor contact station, and relocating/reconstructing the boat launch ramp at the Ash River developed area. The upgraded road would follow a combination of new and existing alignments and would provide the long-term benefit of a safer driving experience, with improved curvilinear alignment, consistent lane width, and increased sight distance. Design speed would increase from 10 mph to 35 mph. Parking capacity would more than double at the developed area, reducing congestion. The old boat launch ramp would be removed and a new ramp constructed at a site offering more natural protection from prevailing winds. Road, pullout, parking, and boat launch ramp construction would result in approximately 46 acres of disturbance. Approximately 31.5 acres would be revegetated, including 4.5 acres of abandoned existing alignment. The National Park Service has informally consulted with the U.S. Fish and Wildlife Service concerning threatened and endangered animal species, and based on preliminary design data, no adverse impacts on federally listed species are anticipated. A survey of the project area identified 15 populations of one federally listed category 2 plant species, the New England violet. These plants would be transplanted as part of the project revegetation plan. The existing alignment of NPS Route 1 affects a number of wetlands, and it was the intent of road design engineers to find a new alignment that would minimize wetland impacts. Calculations performed by the Federal Highway Administration indicate that the proposed new alignment would result in approximately 1.76 acres of wetland impacts and 2.25 acres of wetland reclamation — a net increase of approximately 0.5 acre of wetlands. The project area has been surveyed and inventoried for historic and archeological resources. These resources would be protected.

Address comments to:

Superintendent, Voyageurs National Park
3131 Highway 53
International Falls, MN 56649-8904
(218) 283-9821

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INTRODUCTION

The 1980 *Voyageurs National Park Master Plan* identified the Ash River developed area as a major entry point and one of the four development sites in the park. The Master Plan also stated that Sullivan Bay, which is now referred to as the Ash River developed area, would be open year-round. Specifically, the Master Plan proposed the construction of new site facilities, including a 5,000-square-foot visitor center, a 19,400-square-foot maintenance facility, staff housing, launching and docking structures, and expanded parking facilities. The Master Plan also called for upgraded access and service roads. Due to the scarcity of funding, the site has not yet been developed as described in the Master Plan and is not yet open year-round.

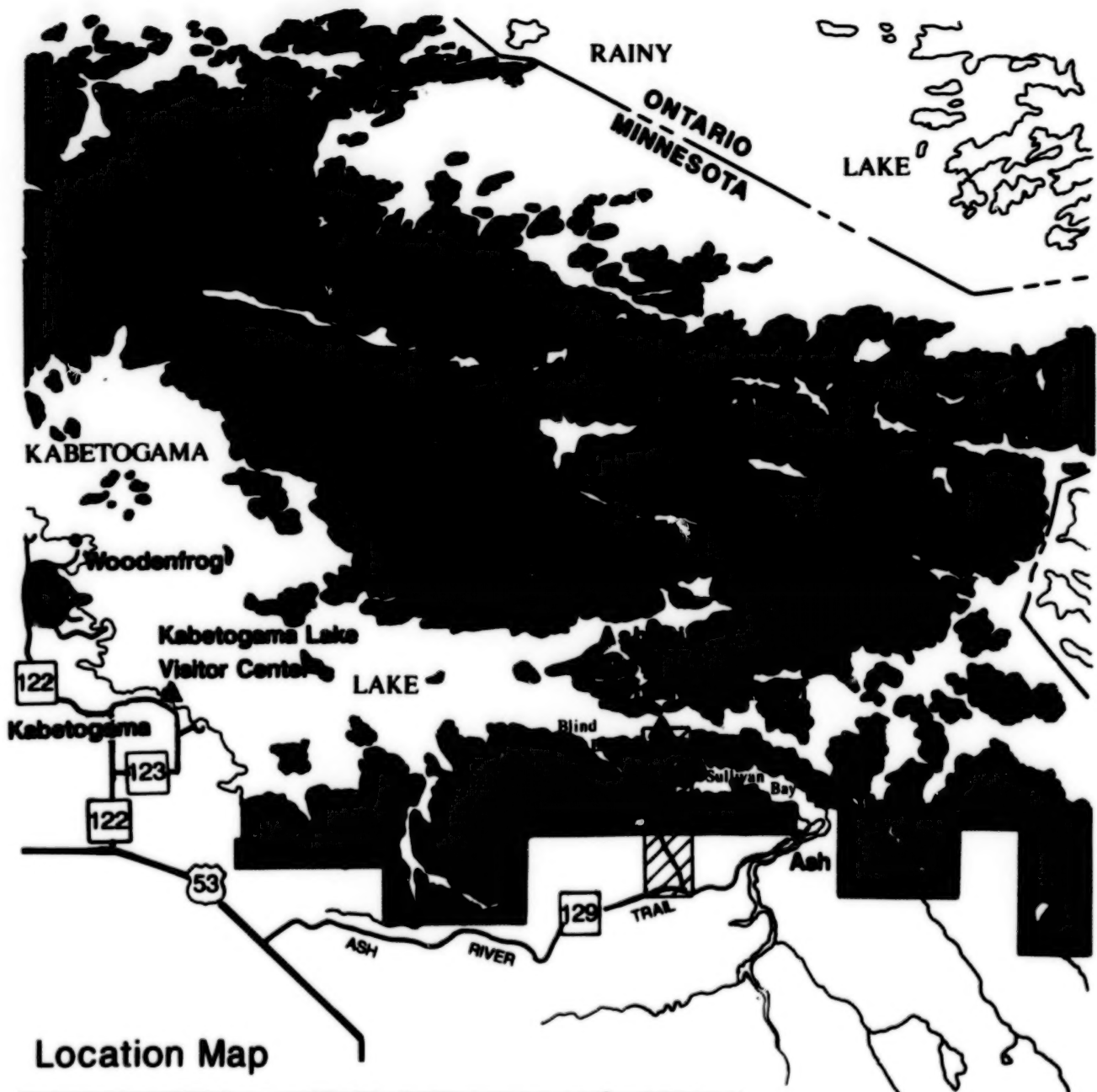
Currently Ash River is the focal point and staging area for park operations and visitor activities along the southern and central portions of Voyageurs National Park. This developed site is between Blind Ash Bay and Sullivan Bay along the southeast shore of Kabetogama Lake near the community of Ash River, Minnesota (see Vicinity map).

Visitor use at the Ash River developed area has increased steadily since the establishment of Voyageurs National Park in 1975. Parkwide visitation is expected to continue to increase as the popularity of the park grows.

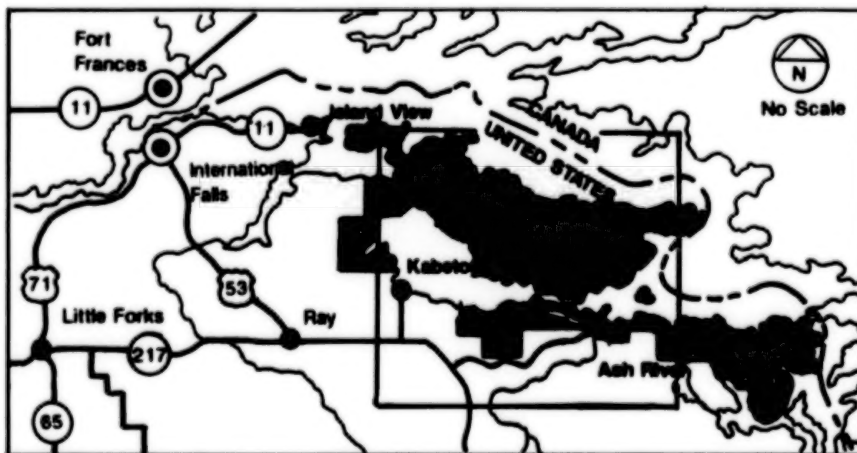
The existing facilities at Ash River include a small park maintenance facility, a visitor contact station, public parking for approximately 5 cars and 32 oversized vehicles, a boat launch ramp, docks, and seasonal housing for about 30 park employees. Several of the buildings are original cabins and resort structures that predate the park and are now used for park operations.

NPS Route 1, the site access road, also predates the park. This road is a class 1 principal park road, providing the only automobile access to the Ash River developed area. This road originated in the 1950s as a logging road and was used to reach lakeside cabins and resorts. The road is federally owned and maintained exclusively by the park.

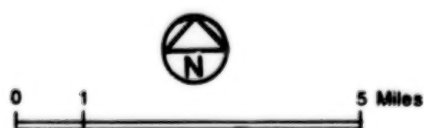
St. Louis County Road 129, also known as the Ash River Trail, is currently being reconstructed (see Vicinity map). The scheduled completion date for this reconstruction is 1996. The existing road is being upgraded from a gravel surfaced road to a rural, paved highway. It is being realigned and widened, and the design speed will increase from 35 mph to 55 mph. The average daily traffic (ADT) was 172 vehicles a day in 1989 and is expected to increase to about 725 vehicles a day by 2009 (Minnesota Department of Transportation 1989).



Location Map



-  NPS ROUTE 1 PROJECT AREA
-  VOYAGEURS NATIONAL PARK



Vicinity

NPS ROUTE 1
 Voyageurs National Park
 United States Department of the Interior
 National Park Service

PURPOSE OF AND NEED FOR THE ACTION

In order to fulfill the intent of the GMP and meet increasing demands for park access, the National Park Service is proposing improvements to facilities and the reconstruction of NPS Route 1.

Improvements to NPS facilities at Ash River would enable the park to better serve visitors and facilitate the distribution of visitors into this and other areas of the park.

The reconstruction of NPS Route 1 is proposed because the existing alignment is

inadequate to meet visitor needs

unsafe and does not meet NPS road standards

in poor condition and requires a high level of maintenance

NPS Route 1 was not engineered for modern vehicle types or for current traffic volumes, which are likely to increase even more with the reconstruction of the Ash River Trail. Sight distance on NPS Route 1 is poor — larger vehicles, including those towing boats, sometimes have trouble negotiating narrow lanes and curves. The road does not meet road standards of the American Association of State Highway Transportation Officials (AASHTO) or the National Park Service. The alignment is a substandard geometric design with only a 10 mph design speed. The roadbase is inadequate and has persistent drainage problems.

NPS Route 1 passes through numerous wetland areas — one 600-foot section is bermed at the shoulder to prevent infiltration and inundation by water from a nearby beaver pond. The park has performed some drainage and base improvements; however, the road is still subject to flooding.

The dirt/gravel surface requires extensive maintenance, and although the road is open and traveled in winter, there is no provision for snow storage. This makes two-way travel difficult because snow often blocks the adjacent lane.

Another problem with NPS Route 1 is the lack of formal pullout/turnaround areas. This results in hazardous conditions when vehicles pull off on to road shoulders or attempt to turn around on the roadway. Parking at the developed area is also inadequate, and access for disabled visitors is limited. Visitor demand at the park's boat-launching facilities currently exceeds the parking capacity, especially during the summer. When the designated parking areas are full, visitors park along road shoulders and in other undesignated areas. This practice results in resource damage and is a safety concern.

The boat launch ramp is poorly sited, in need of repair, and inadequate to meet current visitor needs.



NPS Route 1 provides the only automobile access to the Ash River developed area.



The historic Levin Cabin is adaptively used for various staff and visitor service needs.



The main parking area, which is often congested, is proposed for expansion.



The overflow parking area is to be redesigned.



Wetlands are a typical feature in northern Minnesota, including these in the project area.

ALTERNATIVES

ALTERNATIVE A (PROPOSED ACTION)

The National Park Service, in conjunction with the Federal Highway Administration (FHWA), would upgrade the entire 3.125-mile-long NPS Route 1 from its junction with the Ash River Trail (County Road 129) to its end at the Ash River developed area (see Project Area map and Proposed NPS Route 1 illustration). NPS Route 1 would be redesigned, realigned in some areas, widened, and paved. Work would consist of clearing, grading, installing drainage structures, and laying bituminous pavement. It would be engineered to a 9-ton base design with ditches for snow storage and melt. The new road would have a 35 mph design speed with a safer curvilinear alignment. The new road would follow a combination of existing and new alignments and would be designed to avoid wetland areas to the maximum extent possible. Activities would include the construction of new road segments, the reconstruction of some existing road segments, and the obliteration and rehabilitation of abandoned segments. The road would be realigned to enter Ash River along the east side of the large rocky bluff at the south end of the developed site.

The park's *1988 Rainy Lake Visitor Center Road Specifications and Standards* were used for guidance throughout the early redesign stages. Many of the highly successful design concepts used in its construction would be included in the reconstruction of NPS Route 1. Visual quality, design speed, road right-of-way clearing limits, and drainage devices would remain consistent wherever possible. Design continuity between both roads will provide the visitor with a similar scenic sense of arrival at Voyageurs National Park when travelling either roadway.

In addition to the reconstruction of NPS Route 1, three vehicle pulloffs/parking areas would be added, developed area parking would be expanded and improved, and the existing boat launch ramp would be relocated and reconstructed. All improvements would comply with local zoning ordinances and all applicable federal and state laws and regulations.

The new road width and design would be similar to the Rainy Lake developed area access road, which was completed in the late 1980s. The finished top-width would be 30 feet (12-foot bituminous/asphalt travel lanes with 3-foot stabilized turf shoulders). Turf shoulders would be a combination of 50% crushed aggregate and 50% treated topsoil, allowing the reestablishment of roadside vegetation. Occasional mowing would be required during the growing season. The increased width would allow safe passage for all sizes of vehicles.

No entrance station is planned along this route; however, a new entrance sign would be required and would be similar to the one used at the Rainy Lake visitor center entrance. Gates would be placed at all state forest access points from the new alignment. New signposts would be 2-inch by 2-inch steel.

Minimum 24-inch diameter culverts would be installed where necessary to maintain natural drainage patterns and preserve wetlands. Large concrete box culverts would be used for stream crossings to handle larger volumes of drainage and to minimize potential for blockages caused by beaver activity.

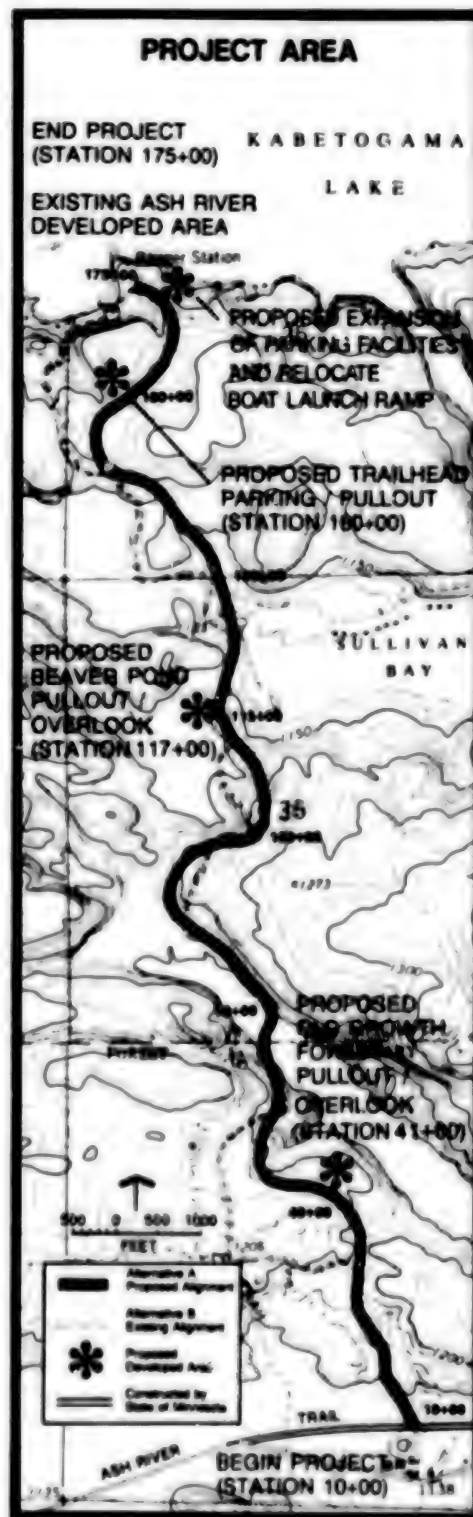
The Federal Highway Administration has submitted a completed local/state/federal project notification form and accompanying documents as an application for a section 404, Clean Water Act, permit. In conjunction with this permit application, they also applied for a section 10, Rivers and Harbors Act, permit for the proposed boat launch ramp.

Three paved interpretive pullouts/parking areas would be constructed along the road at stations 41+00, 117+00, and 160+00. The parking area at station 41+00 would be designed to accommodate nine cars (head-in parking) with four pull-through spaces for oversized vehicles. If funding is available, an interpretive wayside exhibit would be designed and installed to provide information about the nearby old-growth forest. At station 117+00 four pull-through spaces for oversized vehicles would be provided. If funding is available, a wayside exhibit interpreting a nearby beaver dam would be provided. The pullout at station 160+00 would provide trailhead parking with approximately 10 head-in parking spaces and two pull-through spaces for oversized vehicles. If funding is available, an interpretive wayside exhibit and bulletin board about the trail system would be designed and installed.

Internal connector roads, including the maintenance access and the Whispering Pines housing area road, would be reconstructed along the existing alignment with 10-foot travel lanes and 3-foot turf shoulders. The reconstructed roads would be paved. Kabetogama State Forest and Sullivan Bay connectors would consist of short, 20- to 40-foot paved aprons. Other internal connector roads, such as the fire access and material storage yard access, would be upgraded to one 14-foot travel lane with aggregate (gravel) surfaces and no shoulders.

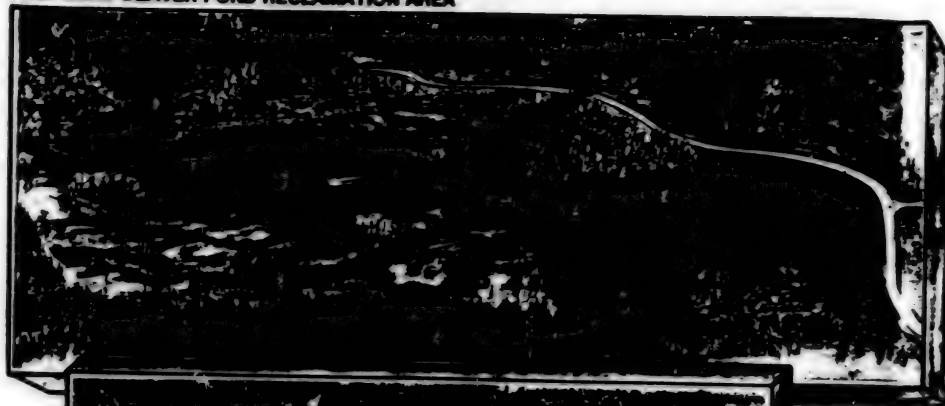
The National Park Service has a written agreement with the state of Minnesota permitting logging trucks to use the first 2 miles of NPS Route 1 to reach state land west of the road during the winter months when the roadbed is frozen. Log truck requirements would be accommodated in the design.

Parking at the developed area on Kabetogama Lake would be expanded — 39 new spaces for cars would



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PROPOSED BEAVER POND RECLAMATION AREA

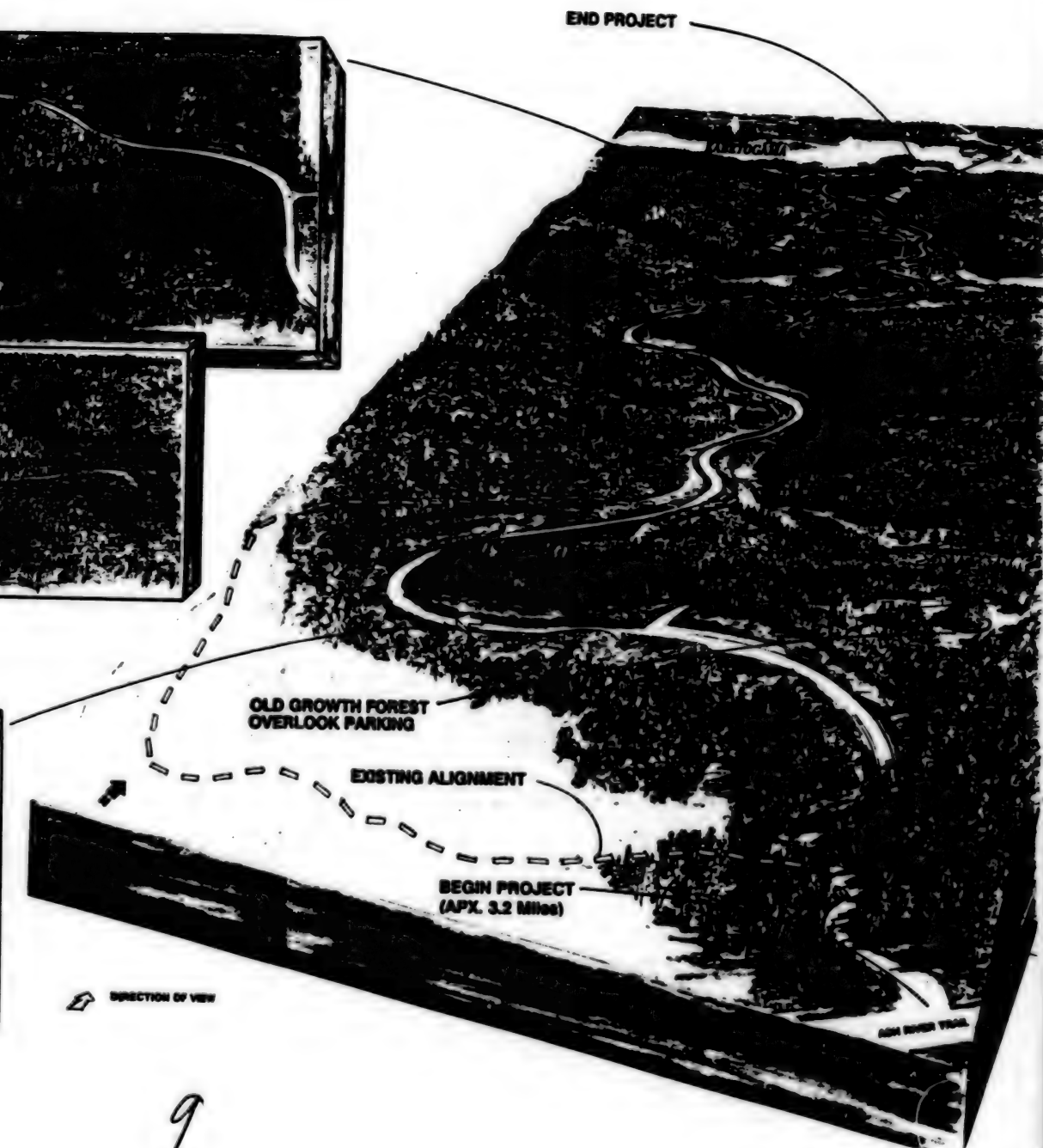


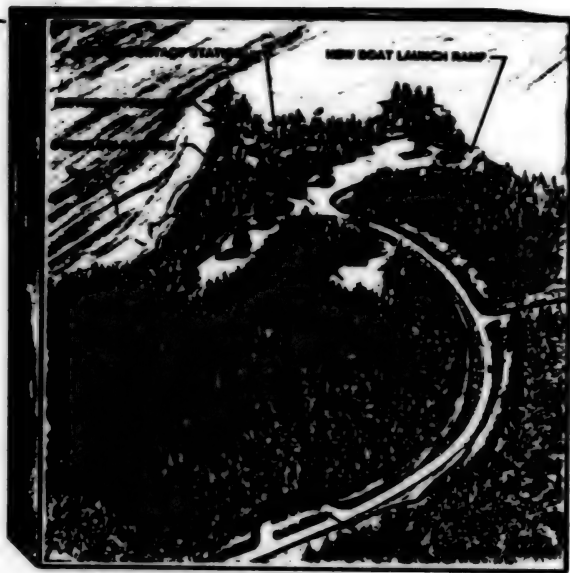
EXISTING ALIGNMENT



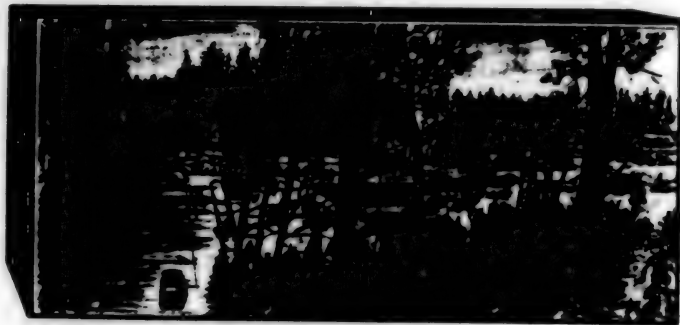
TYPICAL ROAD CUT

END PROJECT





DEVELOPED AREA AND TRAILHEAD PARKING



BEAVER POND OVERLOOK PARKING

ENTRANCE SIGN

PROPOSED NPS ROUTE 1

VOYAGEURS NATIONAL PARK

UNITED STATES DEPARTMENT OF INTERIOR/NATIONAL PARK SERVICE
OSC/JULY 1983/172-30,038

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be added to the existing 5 for a total of 44 — and 47 oversized parking spaces would be added to the existing 32 for a total of 79.

A large, open area near the existing visitor contact station would be designated as a dropoff and pickup area and would be accessible to disabled visitors. This area would be screened from direct view by adding areas landscaped with large trees and other native vegetation.

The existing boat launch ramp would be removed, and a new two-lane launch ramp would be constructed northeast of the visitor contact station. This ramp would consist of a gravel base covered with a filter fabric over which concrete planks would be bolted together.

Careful design would ensure the preservation of natural features, including wetlands and old-growth forest, to the maximum extent possible, and would provide easy and direct access for disabled visitors. A revegetation plan has been developed and would be implemented prior to construction. Old roads and paving would be obliterated, and the sites recontoured. Native plantings would be used where appropriate to reduce visual intrusion from new facilities. Revegetating with native species would reduce environmental disturbances to soils, vegetation, and wildlife.

All disturbed sites would be reclaimed unless the park determined that a site or sites were needed for future materials and equipment storage. Erosion control techniques would include filter fabric, erosion control matting, check dams of weed-free straw bales, or similar materials and methods. The revegetation plan would specify reclamation requirements.

It would be necessary to transport all materials and equipment over park roads. Staging and storage areas, including an asphalt hot mix plant, would be necessary near the construction activities. Sites such as the existing material storage yard or previously disturbed areas outside the park would be used. The park would assist the Federal Highway Administration and contractor in identifying and approving these areas. Housing for construction workers would also be outside the park. The contractor will need to take all precautions to prevent accidental spills of fuels, asphalt products, and other hazardous materials. A safety and accident contingency plan must be developed to meet all state and federal requirements.

Funds are currently programmed for two phases of construction activity in fiscal years 1994 and 1996. Cuts, fills, and drainage work would occur in the first phase and paving in the second phase.

ALTERNATIVE B (NO ACTION)

NPS Route 1, parking, and boat launch facilities would be maintained in their current conditions subject to funding. The existing route would not be paved, widened, or realigned. No additional parking or traffic pullouts would be made available. The boat launch ramp would remain in its current location. Currently disturbed wetlands would not be reclaimed.

ALTERNATIVES CONSIDERED BUT REJECTED

Upgrading NPS Route 1 on its present alignment was evaluated but was not considered a practical alternative because the road has a substandard geometric design, does not allow adequate sight distance, and has persistent drainage problems. It was determined that these problems could not be corrected using the present alignment.

During the early planning stages for NPS Route 1, four preliminary road redesign alignments were evaluated by the park, Denver Service Center, and Federal Highway Administration. The four road alignments plus many smaller route variations considered both 30 mph and 35 mph design speeds. Slower design speeds were eventually dropped from consideration because they require an increased curvilinear alignment, which can result in additional resource impacts. Intersection controls, access spur roads, and parking areas were also evaluated as part of these alignments. Many preliminary road segments were evaluated and changed due to potential impacts on wetlands or other natural resources. Other segments were rejected due to poor vertical or horizontal route alignments, unsuitable sight distances, or extensive cut/fill requirements.

TABLE 1: SUMMARY OF IMPACTS FROM THE ALTERNATIVES

Impact Topic		Alternative A (Proposed Action)	Alternative B (No Action)
Natural Environment			
Topography		94,200 cubic yards of cut, 144,600 cubic yards of fill	No additional impact
Vegetation and	Soils	46 acres disturbed; 31.5 acres revegetated	No additional impact
Wildlife		Minor short-term disturbances and construction-related deaths; no long-term consequences	No additional impact
Wetlands		1.76 acres impacted; 2.25 acres reclaimed; net wetland increase of 0.5 acre	No additional impact
Threatened and Endangered Flora		15 populations of New England violet to be transplanted as part of revegetation plan	No additional impact
Threatened and Endangered Fauna		No known impacts	No additional impact
Water Resources		Minor short-term turbidity	No additional impact
Air Quality		Minor short-term increases in dust and fumes	No additional impact
Visual/Scenic Resources		Careful design would minimize potential impacts.	No additional impact
Cultural Resources			
Native American Religious Uses		No known impact — park officials would consult with concerned Native American tribes	No additional impact
Archeological and Historic Resources		No known impact	No additional impact
Socioeconomic Environment			
Economy		There would be some improvement in local economic conditions	No additional impact
Visitor Use		Improved road and parking conditions would result in increased visitation.	No additional impact

AFFECTED ENVIRONMENT

NATURAL RESOURCES

Topography and Setting

The Ash River developed area lies along the narrow channel between Kabetogama and Namakan lakes in St. Louis County, Minnesota. The area is typical Canadian Shield topography — forested land that has been shaped by glaciation into rolling hills and a complex system of lakes and waterways. The elevation of the project area varies from 1,119 feet (normal lake elevation) to about 1,240 feet.

Geology and Soils

The project area is part of the southern Superior province of the Canadian Shield, a vast peneplain of Precambrian rocks. Pleistocene glaciation formed most of the surface features seen in the area today. The most recent period of glaciation, the Wisconsin period, lasted from 50,000 to 10,000 B.C. and resulted in the exposure of the Precambrian formations and the deposition of unconsolidated morainal materials. As the last glaciers receded, glacial Lake Agassiz remained, and as this vast lake receded, lakes, swamplands, and localized sedimentary deposits were formed.

Subsequent weathering and the establishment of vegetation over the last 20,000 years have added a thin soil layer to many areas. Bedrock is exposed along the lakeshore and in many other areas. Three types of parent material converge in the area: silt to clay lacustrine deposits from the west, calcareous glacial till from the south, and noncalcareous glacial till from the east.

Two broad soil groups are in the project area. One is the Cloquet-Taylor-rock outcrops group, which is composed of coarse- to fine-textured forest soils and rock outcrops and occurs on glacial till and disintegrating bedrock. It is generally confined to gently rolling to hilly upland areas and supports jack pine on gravelly soils and aspen on clayey soils. Rock outcrops make up about 1/4 of the landscape. The other broad group is Indus-Taylor-peat, which consists of coarse- to fine-textured forest soils and organic soils. This group occurs on glacial till and lacustrine deposits on level to rolling surfaces. Indus is somewhat poorly drained; Taylor is moderately well drained. On poorly drained sites, accumulation of plant matter has resulted in the formation of peats. Indus and Taylor soils support healthy stands of aspen trees. A soil survey for St. Louis County is currently underway.

Vegetation

Terrestrial vegetation in the project area includes those plants generally associated with the transition from southern boreal forest ecosystems to the Great Lakes/St. Lawrence forest region. Listed in order of dominance, they include aspen, red pine, white pine, jack pine, spruce, black ash, marsh, grass field, tamarack, and lowland shrubs. The distribution of plant communities closely follows the pattern of the terrain. Low ridgetops are covered by pine or

spruce/fir communities. Paper birch exists on moist sites occupying the middle position in bench-like terrain. Black ash, white-cedar (sometimes in association with aspen), and black spruce exist on the moist to wet sites that occupy deep depressions and channels between the bench formations. Aspen thrives throughout the area and is dominant on several different benches. Lowland shrubs and marshes are associated with shallow bays and narrows.

The nutrient-enriched waters of Kabetogama Lake have high levels of algal productivity. Shallow littoral zones are characterized by rooted, aquatic, vascular plants. The most shallow areas support emergent aquatic species such as cattails and bulrushes. The nearby deeper littoral zones support floating-leaf aquatics such as water lilies and some species of pondweed. The deepest water of the littoral zone supports submerged aquatics such as coontail, water milfoil, and many species of pondweed. Shallow, protected bays commonly support extensive littoral zone development; exposed points and rocky shores where water depth increases rapidly often have little or no littoral zone in evidence.

There are at least 36 known exotic plant species that have invaded and likely displaced some of the park's native vegetation. Exotics such as Canadian thistle and purple loosestrife are of particular concern because they can be introduced in alien sources of fill material and invade disturbed roadside areas.

For a more detailed description of wetlands in the project area, see the Water Resources Including Wetlands section.

Wildlife

Wildlife species living in the project area are typical of the northern Great Lakes forests except for woodland caribou and elk, which no longer inhabit the park. Commonly observed animals include white-tailed deer, snowshoe hare, red squirrel, least chipmunk, black bear, moose, beaver, pine marten, muskrat, fox, skunk, porcupine, mink, weasel, otter, and a variety of birds, insects, and amphibians.

There are approximately 48 species in 16 families of fish in Voyageurs. Fish species composition is similar throughout the system, with the Percidae (e.g., walleye, perch, sauger) dominating the highest trophic level. Northern pike of the family Esocidae is also an important large predator. The Cyprinidae is the most abundant family, with members of Centrarchidae and Catostomidae families being well represented.

Threatened, Endangered, and Special Concern Species

The Ash River area provides habitat for two federally listed wildlife species: the gray wolf (*Canis lupus*), also known as the eastern timber wolf, and the bald eagle (*Haliaeetus leucocephalus*). Both species are listed as threatened in Minnesota. NPS Route 1 lies within the range of at least one wolf pack and possibly more. Wolf activity in the project area is common. This road also passes along the western edge of Sullivan Bay, which is within the nesting territory of at least one pair of bald eagles. Recent survey information indicates that the closest eagle nest to the proposed project area is approximately 1.5 miles.

Other species of special concern include the lake sturgeon (*Acipenser fulvescens*) and lynx (*Felis lynx canadensis*); both are being proposed for federal listing. Minnesota's state bird — the common loon (*Gavia immer*) — osprey (*Pandion haliaeetus*), common tern (*Sterna hirundo*), and white pelican (*Pelecanus erythrorhynchos*) are state-listed species of special concern.

Consultation with the U.S. Fish and Wildlife Service and the Minnesota Department of Natural Resources indicated that the proposed project corridor might contain several protected plant and insect species. For a complete list of threatened, endangered, and special concern vascular plants, refer to *Voyageurs National Park Resource Management Plan*. Based on this information, a survey was conducted along the proposed road alignment in August 1993 by University of Wisconsin graduate student, Harvey E. Ballard, Jr. The survey identified 15 populations New England violet (*Viola novae-angliae*) — a federal category 2 and state special concern species. Casual searches and incidental sightings revealed five additional populations out of the project area. No other listed vascular plant or insect species were discovered along or outside the proposed road alignment corridor (Ballard, 1993). A project revegetation plan is being finalized that includes measures to protect the New England violet, relocating as many of these plants as possible to safe areas in the park (NPS 1993a).

Water Resources, Including Wetlands

The Ash River developed area is on the southeastern shore of Kabetogama Lake, which has a characteristic rocky shoreline with numerous shallow embayments. Kabetogama Lake, in comparison to the park's other large lakes, is more shallow and richer in dissolved nutrients. It has seasonally low dissolved oxygen, significantly higher dissolved solids and alkalinity, and a mixed circulation system. Kabetogama Lake is fed by two streams that drain an area west and south of the park, which is overlain by thicker, calcareous glacial drift. Samples from one of these streams indicated that concentrations of dissolved solids were approximately five times those of the Namakan River and that total alkalinity was about eight times higher.

Waters in the park's large lakes, including Kabetogama, meet nearly all U.S. Environmental Protection Agency standards for drinking, recreation, and the protection of freshwater aquatic life. Water for use at the Ash River developed area is obtained from Kabetogama Lake because bedrock at or near the surface and a shallow soil layer limit the potential for groundwater use. Groundwater aquifer yields of less than 5 gallons per minute from fractured bedrock zones may be obtained locally; however, the low incidence and random occurrence of suitable sites and the availability of high-quality surface water make the potential for groundwater development low.

Voyageurs National Park lies within the 14,900-square-mile Rainy Lake watershed. This watershed is the headwaters of the Winnipeg River, which flows into Hudson Bay. The Rainy Lake watershed is characterized by numerous lakes, short broken streams, and extensive, poorly drained swamp and marsh areas.

About 83,789 acres of parkland (38.4% of the total park area) are covered by lakes. Kabetogama Lake and those portions of Namakan, Sand Point, and Rainy lakes that lie within the park make up 96% of the water area, and the rest is comprised of 26 smaller interior lakes

(except beaver ponds). Water drainage is generally counterclockwise through the larger lakes and exits westward by the Rainy River.

The normal pool elevation of Kabetogama, Namakan, and Sand Point lakes (collectively known as the Namakan Reservoir) is 1,118 feet above sea level. Lowest water levels normally occur in March or April and highest levels during June or July.

The Boundary Waters Treaty of 1909 provides for water use and reservoir water levels to be regulated by an international joint commission, which has appointed the International Rainy Lake Board of Control to monitor Rainy and Namakan reservoirs. The water levels of Kabetogama Lake along with Namakan, Sand Point, and Rainy lakes are currently controlled by Boise Cascade dams at Kettle Falls and International Falls. The commission has established rule curves (narrow bands of elevations) within which Boise must maintain the water levels.

The Ash River developed area is protected from flooding by these regulated reservoir water levels; however, storm-generated wave action can result in flood damage to docks and other shoreline structures. As previously stated, NPS Route 1 passes through probable flood hazard areas such as stream channels; however, park roads are exempt from compliance with EO 11988, "Floodplain Management," under NPS procedures for implementation.

Four types of wetlands have been identified in the project area in accordance with U.S. Fish and Wildlife Service procedures for classifying wetlands and deep water habitats of the United States.

Plastrine, Forested, Needle-Leaved, Evergreen — These areas include black spruce bogs, white cedar swamps, and mixed cedar/white spruce/black ash swamps. They are important for stormwater and floodwater retention. These areas also provide important habitat for wildlife including furbearers, birds, and amphibians. White cedar areas are important winter habitat for white-tailed deer.

Plastrine, Forested, Broad-Leaved, Deciduous — These areas include lowland hardwood swamps, which are dominated by deciduous hardwood trees. These areas are dominated by black ash with some red maple and birch. These areas are important wildlife habitat.

Plastrine, Scrub-Shrub, Broad-Leaved — These areas include shrub-swamps and shrub-carrs, which are dominated by woody vegetation less than 20 feet high with a diameter breast height (dbh) of less than 6 inches. They are usually dominated by alder or willow and provide habitat for songbirds and small mammals.

Plastrine, Emergent, Persistent — These areas are dominated by species that normally remain standing at least until the beginning of the next growing season, such as cattails. These are among the most productive of all wetlands for waterfowl and furbearers. In addition to wildlife habitat, they aid in floodwater retention, protect shorelines from erosion, help trap sediments, and assimilate nutrients.

The National Park Service would comply with EO 11990 "Protection of Wetlands."

Air Quality

Voyageurs National Park is a class I area under the Clean Air Act. A monitoring program has been established in the park that provides a variety of information. Air quality monitoring indicates moderately acidic precipitation and some ozone damage to sensitive plant species.

Visual/Scenic Resources

Visual quality is excellent, with views of north country woodlands and lakeshores. Visibility monitoring has determined that the standard visual range in the park varies between 12 to 100 miles, with an average distance of 44 miles.

The *NPS Park Road Standards* (NPS 1984) state that park roads should be

designed with extreme care and sensitivity with respect to the terrain and environment through which they pass — they are laid lightly onto the land.

The standards also state that

park roads are intended to enhance the visitor experience while providing safe and efficient accommodation of park visitors and to serve essential management access needs.

CULTURAL RESOURCES

There are 23 structures in the Ash River developed area (see appendix A). Most of these are quarters units at Whispering Pines. Whispering Pines Resort was constructed in 1958 by Robert Berggren and was under a concession agreement with the National Park Service from 1979 to 1984. It has served as government quarters since 1985. Six buildings have been removed from the Whispering Pines resort since 1985 and several have been moved from their original locations. In 1958 the Berggrens improved the winter logging road into Kabetogama Narrows to provide access to their resort. This alignment is the present-day NPS Route 1. A determination of eligibility needs to be made for Whispering Pines and NPS Route 1.

Meadwood Resort, Meadwood laundry, and the nearby Levin cabin were constructed in the mid-1930s by Ted Mead and acquired by the National Park Service in 1977. Six cabins and several outbuildings associated with Meadwood Resort have been removed. Meadwood Lodge serves as a visitor contact station, the Meadwood laundry provides storage space, and the Levin cabin functions as a research station; all three buildings and an associated water tank are eligible for the National Register.

The Caples cabin, east of the Whispering Pines housing area, was constructed in 1964 as a summer vacation cabin. The Slatinski cabin, between Caples and Ash River was constructed by commercial fisherman, John Slatinski, Sr. in the mid-1920s. It is the only building remaining from the Slatinski family commercial fishing operation. Determinations of eligibility need to be made for the Caples and Slatinski cabins.

Although a cultural landscape study has not been conducted for the Ash River developed area and the area has not been evaluated for the National Register of Historic Places as a cultural landscape, landscape features have been identified and mapped. Landscape features have been inventoried.

In 1973 a preliminary archeological reconnaissance of the proposed development area by the Minnesota Historical Society documented archeological site 21SL47. The Ash River developed area was also included in a parkwide survey conducted by the University of Minnesota in conjunction with the Minnesota Historical Society in the mid-1970s. Limited testing conducted by the Midwest Archeological Center in 1979 suggested that site 21SL47 may be potentially eligible for the national register. The Midwest Archeological Center also surveyed the proposed road corridor during June 1993; no cultural resources were found. Eligibility of NPS Route 1 has not been determined. Access to the resort area was by water until 1950 when the present road was built along the former logging road.

SOCIOECONOMIC ENVIRONMENT

Regional Characteristics

Koochiching County and northern St. Louis County are heavily wooded areas along the north central border of Minnesota. These counties share a border of lakes and rivers with the Canadian province of Ontario. The lakes and rivers of Voyageurs National Park are part of the largest inland lake waterway in North America.

The waterways are most often used for recreation. The region is popular with tourists and visitors from Minnesota, other parts of the midwest, and Canada. Much of the tourism industry in the region is centered around the park. Nearly 137,600 recreation visitor days were reported for the park in 1991 and more than 108,200 recreation visitor days were reported for 1992.

Population

International Falls is the county seat and largest city in Koochiching County. International Falls' 1990 population of 8,325 was up significantly from the 5,611 population of 1980. Part of the increase was due to the consolidation of International Falls with the community of South International Falls. The similar-sized Canadian city of Fort Frances is just across the border to the north.

Koochiching County is a large area that is sparsely populated. In 1980 the county had 17,571 residents. Population declined to 16,299 in 1990.

The major portion of the park lies within St. Louis County. This northern part of the county is also sparsely populated. The major population centers of Duluth and Minneapolis/St. Paul are 165 miles and 295 miles, respectively, to the south of International Falls.

Economy

Major employers in International Falls are shown in appendix B. The wood and paper industries have always been the economic mainstay of this area; however, state and local government as well as primary and secondary education are significant employment sectors of the local economy. Tourism is also important to the economy. The small communities of Kabetogama, Ash River, and Crane Lake are dependent on tourism for their economic viability.

Transportation and Access

The water-dominated landscape and lack of roads limit opportunities for automobile access/touring at Voyageurs National Park. The roads that do exist are primarily for access to the Rainy, Kabetogama, and Ash River developed areas.

International Falls serves as the gateway to Voyageurs National Park and offers regional air transportation services. Vehicle access is primarily by U.S. Highway 53, which connects International Falls to points south and east, including Duluth. County roads 129, 123, and 122 also provide access from the south. U.S. 71 provides access from points to the west and southwest. International Falls also serves as a border crossing with Canada to the north.

Most of the recreation potential of the park is accessible only by boat in the summer or by snowmobile after the lakes are frozen. Boat-launching facilities are available at National Park Service sites near the Rainy Lake visitor center, Kabetogama Lake visitor center, and Ash River visitor contact station. State government and privately controlled launching facilities are available to the public at Woodenfrog, Ash River, and Island View.

Route 129 serves National Park Service facilities and privately owned commercial facilities at the community of Ash River. Ash River is only 2 miles from the beginning of the access road where it intersects with the Ash River Trail (County Road 129). The Ash River Trail connects to U.S. Highway 53 to the west and ends at the Ash River resort community to the east. The Ash River visitor center is about 39 miles southeast of International Falls.

The resort community of Lake Kabetogama provides direct access to the recreational resources of the park. The Kabetogama Lake visitor center is reached from routes 122 and 123. It is approximately 26 miles southeast of International Falls. This city is 12 miles west of the Rainy Lake visitor center by Minnesota Route 11. The resort community of Island View and the Rainy Lake visitor center provide direct access to the Rainy Lake and Black Bay areas of the park.

At the extreme southeastern edge of the park lies the community of Crane Lake. Crane Lake is reached from U.S. 53 through the town of Orr by Minnesota Highway 23. This site provides direct access to the park's recreation resources. It also serves visitors to the U.S. Forest Service's Boundary Waters Canoe Area. As a seaplane base, it serves as an originating point for excursions into the Canadian wilderness.

Visitor Use/Activities/Services

Visitors primarily use the Ash River developed area for boating access to Kabetogama Lake. Historically access has been by NPS Route 1, which spurs from the Ash River Trail (County Road 129). Both roads were graveled. This fact and the relative isolation of the area have limited the appeal of the Ash River developed area. Even so, visitor use at the Ash River developed area has increased since the establishment of Voyageurs National Park in 1975. Accurate records of visitor use at Ash River are not available prior to 1992; however, direct observation by park staff regarding visitor use and traffic counter data from 1992 and 1993 support this conclusion. Visitor use is also expected to significantly increase because of improvements to the Ash River Trail. Because access to the developed area would become easier once the Ash River Trail is paved, it is expected to be more inviting to visitors, especially those pulling boat trailers.

Warm weather activities at Voyageurs National Park include boating, fishing, camping, swimming, and berry picking. Snowmobiling, cross-country skiing, and ice fishing in the winter are popular cold weather recreational activities.

International Falls. International Falls provides a full range of visitor services, including lodging accommodations, restaurants, grocery stores, camping and boating suppliers, and general shopping businesses. Other personal services such as medical facilities are also available.

Ash River. Ash River is a small resort community with four resorts offering dining and marina facilities. It provides visitors information and interpretation, docking and launching facilities, hiking trails, and picnic tables. This developed area also contains park maintenance and housing facilities, and its central location makes Ash River the most important operations staging area in the park.

Kabetogama Lake. Kabetogama Lake offers nearly 30 lakeshore resorts that provide a variety of overnight accommodations and dining facilities. The Lake Kabetogama visitor center and other NPS facilities are complemented by commercial stores and marina operations that cater to boaters, campers, and other visitor needs.

Crane Lake. The community of Crane Lake lies at the extreme southeastern edge of the park. It is a small resort community that provides visitors with lodging, food, and fuel. Boating and snowmobiling are the most popular activities, and houseboats and snowmobiles are available for rent. The U.S. Customs Service provides clearance for visitors at the public landing. Seaplane service is available for excursions into the Canadian wilderness.

ENVIRONMENTAL CONSEQUENCES

IMPACTS OF ALTERNATIVE A (PROPOSED ACTION)

Critical elements associated with the reconstruction of NPS Route 1, expansion of parking facilities, and relocation/reconstruction of the boat launch ramp are listed below. Only those elements labeled "yes" are discussed further. The elements labeled "no" would not be affected.

Critical Element	Affected
Natural Environment	
Topography	Yes
Vegetation and soils	Yes
Wildlife	Yes
Threatened and endangered species	Yes
Water resources	Yes
Air quality	Yes
Visual/scenic resources	Yes
Farmlands, prime or unique	No
Wilderness	No
Cultural Environment	
American Indian religious uses	Yes
Archeologic resources	Yes
Historic resources	Yes
Socioeconomic Environment	
Economy	Yes
Visitor use	Yes
Hazardous materials	No

Natural Environment

Topography. Analysis: Construction of the road, pullouts, and boat launch ramp and parking area expansion would result in the disturbance of approximately 46 acres. Earthwork quantities have been estimated by the Federal Highway Administration and include approximately 94,200 cubic yards of cut and 144,600 cubic yards of fill. Based on these estimates, 26,000 cubic yfnds of fill would need to be imported from an approved location outside the park.

Most of the cut would be in areas of shallow and surface bedrock and would require blasting. Fractured bedrock would be used as fill material to minimize the importation of fill material from outside the park. Blasting would be performed under approved safety procedures by qualified professionals to minimize potential adverse impacts.

Nearly all topographic impacts would occur within 50 feet of the centerline (100-foot corridor) or within the developed area.

Conclusion: The fracturing and removal of bedrock would be an irretrievable and irreplaceable commitment of resources under the proposed action. The old unused roadbed would be restored to its original contour to the extent practical, and revegetated with native species and when possible, native genotypes.

Soil and Vegetation. Analysis: Approximately 46 acres of soils and vegetation would be affected during clearing, grading, and excavation activities. Some wetland areas would be impacted (see Analysis of Water Resources Including Wetlands section). Vegetation would be removed/destroyed and soils would be disturbed throughout the proposed construction corridor. Some plant materials, including the New England violet would be salvaged for reclamation and revegetation activities. The contractor would be required to salvage as much topsoil as possible for use in restoration/revegetation activities following construction.

When possible, the Park Service would minimize impacts on sensitive plant communities, including

- communities bordering the geographic ranges of its plants such as American basswood, ironwood, green ash, and American elm

- communities that harbor rare plants and plant species groups such as green ash and American elm, black ash-fern-sedge, and white-cedar swamp

- communities that are unusual because of their structure such as old-growth red and white pines and two-storied aspen stands

- communities with unusual patterns of dominance such as white-cedar and tamarack

- communities that are endangered by lack of natural fire disturbance such as red, white, and jack pine

The National Park Service in cooperation with the Minnesota Department of Natural Resources is finalizing a project revegetation plan (NPS 1993a). This plan addresses revegetation objectives including methods for wetlands reclamation, weed control, erosion control, and vegetation management. The draft plan would be completed and approved prior to any construction activities.

Approximately 31.5 acres would be revegetated including 4.5 acres of abandoned existing alignment. The reconstructed road would occupy approximately 14.5 acres.

Disturbed soils would be highly susceptible to erosion and weed infestation. Some soil would be lost to erosion; however, the contractor would be required to use erosion control techniques such as erosion control blankets, check dams, and riprap to minimize soil loss. Successful revegetation would also reduce both the potential for soil loss and weed infestation. Imported fill material would be thoroughly checked and evaluated to minimize the risk of bringing weed-contaminated material into the park.

Conclusion: Approximately 46 acres of soils and vegetation would be disturbed under the proposed action. If revegetation efforts were successful 31.5 acres would be restored to natural conditions. There would be no long-term adverse impacts on area vegetation or soils.

Wildlife. Analysis: There would be a short-term loss of 46 acres of wildlife habitat from road widening and expanding parking facilities; however, this loss is not expected to result in any long-term negative effects on area wildlife species or populations. Mitigating measures such as restoration/revegetation of vegetative cover would be incorporated to help minimize potential impacts to wildlife.

Short-term impacts on wildlife would be minimal. A small number of animals, such as burrowing insects and rodents, might be killed during construction activities. Other more mobile animals, such as birds and larger mammals, would be forced to flee the construction zone but would likely return following construction activities and revegetation.

It is uncertain if the new road would result in an increase or decrease in road kill accidents. An increased design speed may result in a higher number of wildlife deaths; however, road improvements such as a wider corridor with improved curvilinear alignments might decrease wildlife deaths because of improved sight distance. In either case, road kills would not result in any long-term negative impacts on wildlife species or populations. Design features such as the installation of extra-large box culverts at the stream crossing at station 67+00 would allow animals such as beaver, otter, and muskrat to pass under the road instead of over it. It is hoped that this feature would provide a more natural wildlife migration route and reduce the potential for road kill in this area.

Conclusion: No long-term adverse effects on area wildlife species or populations would be expected under the proposed action.

Threatened, Endangered, and Other Species of Special Concern. Analysis: The National Park Service has conducted informal consultation with the U.S. Fish and Wildlife Service in accordance with the Endangered Species Act section 7(a), and they have agreed that the proposed action would not affect any listed species or their critical habitat; however, this discussion occurred early in the project planning stages and further informal consultation with the Fish and Wildlife Service would be required. Construction activities may need to be monitored and restricted during critical nesting periods.

The 15 populations of New England violet discovered along the proposed road alignment corridor would be transplanted/relocated as part of the revegetation plan being developed for this project. Approximately 2,140 individual plants would be moved to suitable habitat, which is abundant in the central region of the park (Ballard, 1993).

Conclusion: The National Park Service has determined that there would be no long-term effects on any threatened endangered, or species of special concern; however, consultation with the U.S. Fish and Wildlife Service would continue. Communities of New England violet would be safely transplanted outside of the project area.

Water Resources, Including Wetlands. Analysis: Proposed construction activities would require the placement of fill and riprap into and near wetlands and riparian areas. Based on preliminary design drawings, the Federal Highway Administration has determined that approximately 1.76 acres of wetland would be affected. The project offers the opportunity to reclaim approximately 2.25 acres of wetland area through removal of old road alignment segments. The net effect would be a gain of about .5 acre of wetland.

Of particular concern are two areas of white cedar swamp. The smaller area of white cedar exists at station 52+00 and is about 130 feet long and 110 feet at its widest point. This area is associated with a pocket of clay soils that traps water above the shallow bedrock. A larger area of white cedar occurs at station 49+00. This wetland area is associated with a more complex hydrologic system of braided channels, springs, and ponds. The extent of the area has been mapped, and the Park Service has asked the Federal Highway Administration to try to shift the road alignment 100–200 feet to the east. Moving the road to this location would require removal of about 10 white cedar trees. This pocket of white cedar vegetation is smaller than the other two areas, and it is not associated with wetland hydrology. This alignment shift would also avoid the smaller area of white cedar vegetation at station 52+00.

If further study determines that moving the alignment to the east is not feasible, then the approach would be to survey the area with 1-foot contours to enable placement of culverts to maintain existing water movement to the extent possible. In this event, soils from the area that would be impacted would be removed prior to construction and used for wetlands reclamation along the abandoned roadway, in an area that has similar soils and vegetation. This mitigation would include removing the subgrade of the existing road, placing soil from the white cedar area, and fencing the site to protect emerging cedar plants from deer herbivory (NPS, 1993a).

Minor short-term siltation of water courses would be expected from culvert replacement and other soil disturbances near riparian areas. Mitigating measures such as erosion control blankets, check dams, riprap, and revegetation would be used to minimize impacts. No significant impact on hydrology or riparian ecology would be anticipated. The proposed action would not adversely affect floodplains. Shoreline structures such as the proposed boat launch ramp could be negatively affected during periods of high wave and wind activity. The new location and design of the proposed boat launch ramp were selected because they offer maximum protection against storm surges.

An application for a permit for the FHWA to place fill in wetlands in accordance with the Clean Water Act, section 404, has been submitted to the Army Corps of Engineers. The National Park Service would prepare a statement of findings in accordance with NPS guidelines.

The Storm Water Rule (40 CFR, Parts 122, 123, and 124) applies to this project because more than 5 acres would be affected. A National Pollution Discharge Elimination System (NPDES) permit would be required before construction. A notice of intent and a pollution prevention plan would be prepared prior to construction.

Conclusion: Under the proposed action there would be a net gain of approximately .5 acre of wetlands. There would be no impact on stream hydrology, riparian ecology, or floodplain values from proposed construction activities. Section 404, section 10, and NPDES permits would be obtained before construction activities.

Air Quality. Analysis: Emissions and fugitive dust from construction equipment would temporarily and intermittently decrease air quality in the project area; however, a water truck would periodically spray to control the dust and help mitigate the impacts. The impacts would be minor and short term. The proposed action would not be expected to result in any violations of air quality standards.

Conclusion: There would be no long-term degradation of air quality under the proposed action.

Visual/Scenic Resources. *Analysis:* The proposed new road corridor, parking areas, and boat launch ramp have been carefully designed to help reduce potential visual impacts. The successful revegetation of disturbed areas would help also minimize the visual intrusiveness of these new facilities.

Conclusion: Careful design and successful revegetation would help to minimize the impacts from construction activities.

Cultural Resources

Analysis: The historic Meadwood lodge, Meadwood laundry, and Levin cabin would continue to be adaptively used for various staff and visitor service needs. Continuation of existing uses is in keeping with the buildings' historic character and would ensure future maintenance. This project does not propose to move or alter these, or any of the other, historic structures in the Ash River developed area.

A historic landscape study is recommended for the Ash River developed area, to document the resources and the area's historic context and significance before additional development. A map of landscape features associated with the developed area has been provided to the Federal Highway Administration to ensure avoidance of these resources during development. Designs and materials for the parking lot, curbs, etc., would be compatible with existing features. The park would work with the Minnesota state historic preservation officer to ensure that construction, including enlargement of the parking lot and relocation of the boat launch ramp, would not adversely affect the historic character of the area before further study was completed. The Advisory Council on Historic Preservation would also have an opportunity to comment on the project.

Site 21SL47 lies outside the primary development zone, but the following measures would be taken to avoid secondary impacts and to mitigate impacts on existing landscape features during construction. No-work zones would be established around the archeological site and landscape features identified during the 1993 inventory — appropriate barriers would be erected, and work would be monitored by the park cultural resources specialist. Construction specifications would include specific provisions for site and landscape feature avoidance and for stop-work measures, should archeological resources be inadvertently uncovered during the job.

No known archeological or historic features would be affected by reconstruction of the entry road. There are no known ethnographic sites in the area; however, the park would contact concerned Native American tribes regarding this project. If any religious concerns were identified, the National Park Service would work with the Federal Highway Administration to avoid sites or to mitigate impacts.

Conclusion: Archaeologic sites and historic resources have been identified and would be protected from disturbance under the proposed action.

Socioeconomic Environment

Economy. Analysis: More visitors would be encouraged to visit the Ash River developed area by improving site facilities and access. The effects on the local economy and businesses from this increased visitation would likely be positive.

Conclusion: The economic conditions in the area near Ash River would improve with reconstruction of NPS Route 1, expanded parking, and a new boat launch ramp.

Visitor Use. Analysis: Vehicle access would be much safer and site congestion would be greatly improved under the proposed action. Visitor services would not change; however, the proposed improvements would be able to accommodate an increased amount of visitors. A safer road and improved facilities might encourage visitors to use the Ash River developed area as a destination or launching point for their recreational activities.

Conclusion: Under the proposed action visitor services at the Ash River developed area would remain the same; however, visitor use would likely experience some growth because of the Park Service improvements. Traffic along the Ash River Trail and NPS Route 1 would likely increase.

Cumulative Impacts of the Proposed Action

There would be no known cumulative impacts associated with the proposed action.

IMPACTS OF ALTERNATIVE B (NO ACTION)

Natural Environment

Continued use and maintenance of NPS Route 1, as well as the existing parking facilities and the boat launch ramp, would cause continued degradation of road shoulders as an increasing number of visitors struggled to find parking sites during peak use periods. Currently impacted wetlands would not be reclaimed. Impacts on wildlife would be the same as they are under present management.

Cultural Resources

There would be no new impacts on historic or prehistoric resources because there would be no construction disturbance. The historic character of the site would remain unchanged.

Socioeconomic Environment

Increased use of the site with no additional parking facilities would result in continued congestion during peak use times.

CONSULTATION AND COORDINATION

The following individuals and agencies were consulted during preparation of this environmental assessment:

National Park Service, U.S. Department of the Interior

Joel Wagner, Hydrologist and Wetlands Coordinator, Water Resources Division

U.S. Fish and Wildlife Service, U.S. Department of the Interior

Lynn Lewis, Field Supervisor

Paul Burke, Biologist

U.S. Army Corps of Engineers

Tim Peterson

Minnesota Department of Natural Resources

Jack Mooty, Nongame Wildlife Specialist

Eastern Federal Lands Highway Division, Federal Highway Administration, U.S. Department of Transportation

Paul Schneider, Location Engineer

Dave Weber, Project Manager

Ken Atkins, Environmental Planning Engineer

Jack Van Dop, Environmental Planner

APPENDIX A: STRUCTURES IN KABETOGAMA NARROWS DEVELOPED AREA

Building Number	Construction Date	Description	National Register Status
Whispering Pines			
37	1958	Whispering Pines cabin	no determination
38	1958	Whispering Pines laundry	no determination
40	1958	Whispering Pines cabin	no determination
41	1958	Whispering Pines cabin	no determination
42	1958	Whispering Pines cabin	no determination
43	1958	Whispering Pines cabin	no determination
44	1958	Whispering Pines cabin	no determination
45	1958	Whispering Pines boat storage	no determination
51	1958	Whispering Pines cabin	no determination
53	1958	Whispering Pines cabin	no determination
54	1958	Whispering Pines cabin	no determination
Levin Cabin			
81	1937	Levin cabin	eligible
—	1937	Levin water tank	eligible
Meadwood			
14	1968	quarters cabin	no determination
15	1970s	metal storage building	NPS constructed
16	1935	Meadwood laundry	eligible
17	1935	Meadwood Lodge	eligible
73	1970s	fire cache	no determination
87	1970s	water treatment plant	NPS constructed
93	1970s	water treatment plant	NPS constructed
94	1970s	maintenance storage building	NPS constructed
126	—	fuel station building	NPS constructed
—	1964	Cable cabin	no determination
—	1925	Slatinski cabin	no determination

APPENDIX B: MAJOR EMPLOYERS IN INTERNATIONAL FALLS

Employer	Products/Services	Employees
Boise Cascade Corporation	Paper Products	1,200
United Health Care	Insurance Processor	125
Holiday Inn	Motel	100
RJ Tackle, Inc.	Fishing Lures	90
International Bldrite, Inc.	Insulation Board	67
Daily Journal	Newspaper	50
Green Forest Products	Sawmill	20
Continental Telephone Company	Communications	18

Source: Minnesota Department of Trade and Economic Development.

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PREPARERS

DENVER SERVICE CENTER, CENTRAL TEAM

David Kenney, Natural Resource Specialist, Principal Author
Richard Lichtkoppler, Resource Economist
Jim LaRock, Supervisory Landscape Architect
Mike Hart, Visual Information Specialist
Jan Burton, Landscape Architect, DSC Project Coordinator
Howard Wagner, Chief, Branch of Roads and Trails
Sue Nordstrom, Landscape Architect
Diane Rhodes, Archeologist
Kit Mullen, Senior Compliance Specialist

VOYAGEURS NATIONAL PARK

Ben Clary, Superintendent
Raoul Lufbery, Facility Manager
Bruce McKeeman, Chief Ranger
Mac Brock, Natural Resource Specialist
Mary Graves, Cultural Resource Specialist

MIDWEST REGIONAL OFFICE

Mark Mitts, Civil Engineer, Regional Project Coordinator

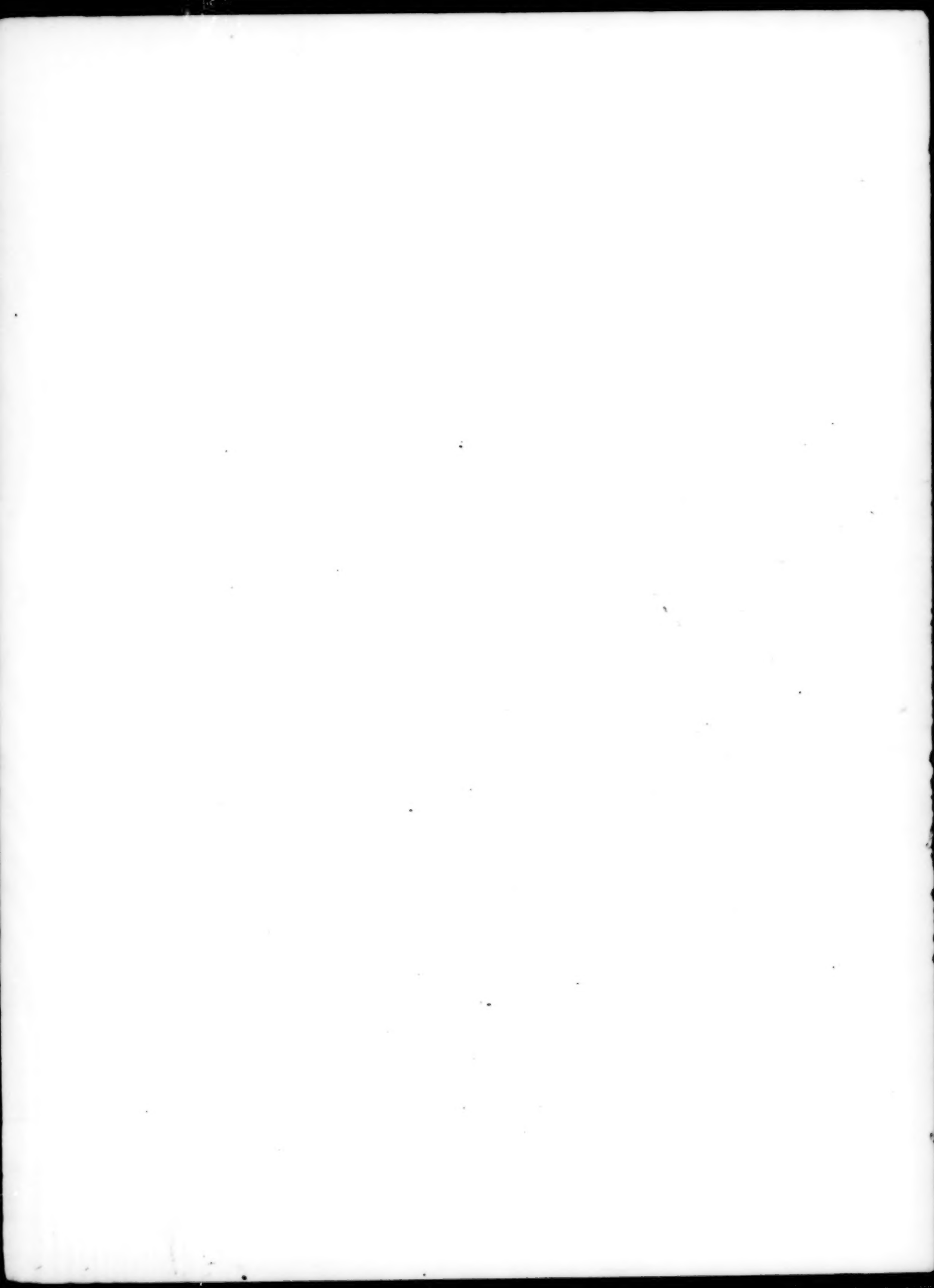
DENVER SERVICE CENTER, PRODUCTION SERVICES

Jon Nickolas, Writer/Editor
Robert Todd, Cartographic Technician



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS D-94, October 1993.



END

10-19-94